TRANSFORMING INFORMATION PROVISION

The Australian Bureau of Statistics provides statistical data via paper publications, CDs, online services, telephone and the Internet. ABS@ is an Internet service through which the ABS can disseminate most of its publications to corporate clients. The service is available on an annual subscription basis. Staff in a client organisation can access ABS data and publications from their desktop.
Overview

The Australian Bureau of Statistics (ABS) is Australia’s official statistical organisation. It provides a timely, relevant and responsive service. The ABS is recognised nationally for the integrity and quality of its information.

At your service

ABS@ is a comprehensive service allowing subscribers to access all ABS standard statistical products from their desktops 24 hours a day, seven days a week. The service is developed for Intranet use at key client organisations.

ABS@ is effectively an electronic container. It has various databases containing statistical publications, spreadsheets, and data cubes or multi-dimensional data sets. It also provides access to an additional database called the Consultancy Container, which has statistical reports generated by ABS from ad hoc information consultancies for that client.

The major difference between ABS@ and other ABS dissemination services is that ABS@ regularly updates ABS statistical data on the client organisation’s Intranet. Clients pay a fixed annual subscription based on the size of their organisation.

Why was it developed?

ABS releases its statistical data and publications at 11:30am (Eastern Standard Time/Eastern Standard Daylight saving time) every working day. By setting 11:30am as the embargo time, ABS ensures equity of access to users across Australia, no matter which time zone they are in.

In the past, clients either downloaded files from the Internet through the AusStats subscription service or purchased paper-based publications. Due to cost limitations, some clients were not exposed to the full range of products. ABS@ is available through key client Intranets and the data is much more accessible with a high level of functionality support.

How does ABS@ work?

The service is unique because it securely replicates the latest ABS publications and other data into the client’s Intranet on a daily basis. ABS@ uses Lotus Notes software applications. The system is inter-operable and clients without Lotus Notes can use Internet browsers across their networks.

The content of ABS@ service requires some third party software to be installed within the client agency. This includes Adobe Acrobat Reader for publications, SuperTABLE for data cubes, a spreadsheet application (such as MS Excel or Lotus 123) to read ABS spreadsheets and software to expand compressed files.

The content has grown over time into a significant library store of ABS publications and other data, including all releases from January 1998 onwards and extensive 2001 Census data.

As part of the service, ABS provides training, conducts information sessions and also provides comprehensive help documentation regarding service use.
Benefits

ABS@ supports informed decision-making, research and discussion within governments and the community by providing timely access to a wide range of ABS statistical information.

It allows clients to reduce the cost of storing and handling paper publications. It also provides clients with ongoing statistical information requirements with a sound technological platform for developing a service relationship with the ABS over time.

The service helps ABS achieve increase awareness and use of its statistical data and of the associated standards and statistical classifications. It also allows ABS to strengthen relationships with key clients. Through this service, ABS obtains better and more direct feedback on the use of ABS data. The service allows ABS tools and infrastructure development to be shared, delivering value and economies to the Australian taxpayer. It provides a potential channel for statistical data capture and documentation of data holdings.

Demand for the service

ABS@ is used by several agencies in Commonwealth, State and Territory governments. ABS is negotiating with other clients in the three tiers of government.

Lessons learned

ABS has worked with its clients to implement the service at the client’s information gateway or Intranet. Every implementation has been unique as clients have a diverse range of infrastructure. As a result of these changing requirements, the implementation process has evolved with each installation. The process has also exposed ABS to the intricacies of the different client technology environments, leading to several improvements in the service.

There are significant overheads for ABS in terms of time and energy for service implementation and awareness raising among clients. This is being achieved by working in partnership with clients. All parties have to make significant investments of time and energy to gain maximum benefit from the service.

Future direction

ABS is considering a number of future developments for the service, including:

• a push notification service alerting users to releases of data in which they have indicated an interest;
• providing ABS@ as a web service;
• enhancing the Consultancy Container to allow clients greater flexibility to manage data; and
• providing ABS@ as a portal for users once the ABS enhances its online services or the National Statistical Service.

Further information is available at www.abs.gov.au and from Client Services, Australian Bureau of Statistics, ABS House, Benjamin Way, Belconnen ACT 2617. Phone: 02 6252 5280; Fax: 02 6252 7102; Email: client.services@abs.gov.au
AskNow! is an innovative online reference chat service. It enables librarians to respond in real-time to people’s reference questions, reaching out to help all Australians, irrespective of their location, in an increasingly online information environment.

AskNow! is an initiative of CASL, the Council of Australian State Libraries, which comprises State and Territory libraries and the National Library of Australia. CASL promotes the creative and intellectual endeavours of Australians through the development of library services.

‘AskNow! is reaching out in a new way to existing library users, as well as introducing new users to the rich resources of Australian libraries. It has been particularly useful to users in regional and rural areas.’

– Dagmar Schmidmaier, Chair of the Council of Australian State Libraries
Why AskNow! was developed

In addition to face-to-face reference services at information desks, libraries involved in AskNow! were offering telephone, fax and email services to external customers. As the world of online information became larger and more complex, yet more accessible, librarians saw an opportunity to provide an interactive online service to users.

AskNow! was established initially as a twelve month pilot which aimed to test a collaborative reference model for the National, State and Territory libraries in Australia. The pilot is assessing customer needs and market segments for online reference, and testing and evaluating the resources required to deliver a web based reference service direct to the customer, using chat software. It is expected that AskNow! will be continued as a full service at the conclusion of the pilot in August 2003.

Key features

AskNow! is staffed on a time-share basis by librarians from the National Library of Australia, the State Libraries of Victoria, New South Wales, Queensland, Tasmania, South Australia and Western Australia, the Northern Territory Library and the ACT Library and Information Service. The service is currently available Monday to Friday from 9:00am to 7:00pm Australian Eastern Standard Time with three concurrent operators.

AskNow! uses 24/7 Reference software developed by the US Metropolitan Cooperative Library Service, which also hosts AskNow! on it’s server. The look and feel of AskNow! is customised to suit Australian requirements. All that is required to access AskNow! is an Internet connection and an email account.

The value of collaboration

CASL recognised the benefits of working collaboratively to provide improved reference services in all libraries and established a working group to monitor and share information on current developments in the virtual reference desk and assess the potential for collaboration.

Several of the CASL libraries had independently investigated the development of virtual reference services. The National Library participated in the development and testing of the international collaborative digital reference service, QuestionPoint, developed by the Library of Congress. State and Territory libraries were involved in collaborative ventures in their own domains. New service models were developed such as Ask-A-Librarian – libraries.vic.gov.au/asklibrarian – the pilot email reference service for Victorian public libraries, run by Libraries Online. New technologies such as customer management software, voice-over-Internet protocol, knowledge-based software and various chat software packages had also been investigated.

Libraries across Australia were able to share and benefit from these experiences, laying the foundation for the AskNow! pilot.

Collaboration has been the key to the pilot project, as no single library would have had the resources to run the service for the number of hours it is being offered. AskNow! has unified the efforts of libraries across the country through cooperation in pursuit of common goals.
Benefits

AskNow! transactions occur in real-time and allow the librarian to present web pages to the user. Inquirer and librarian can view the same pages while the inquirer is guided through the search. AskNow! allows librarians to teach users how to find information on the web. Clients receive consistent, high quality and professional service in a timely manner.

AskNow! provides ready-reference material within ten minutes, while complex questions or those needing more time or resources may be referred to an email service for a fuller response. Enquiries are confidential and service providers ensure client privacy.

This service has provided a new means for communicating with users and enriched the work of librarians. It is building relationships with new users and demonstrates how traditional staff skills can transfer to the online environment.

With many Australians living in rural and regional areas, or finding it difficult to visit a library, services such as AskNow! meet users at their point of need. The Library’s customer survey indicates the service is appreciated for its ease of use and convenience, particularly for people some distance from large libraries in capital cities.

AskNow! is virtually maintenance-free and involves minimal overheads. The infrastructure is based in the USA and the participating CASL libraries share the costs of the licence and annual maintenance fee to use the software.

Demand for the program

The service was officially launched at the Sydney Information Online conference in January 2003. Publicity following the launch has seen demand increase from an average of 30 enquires a day in the period August to December 2002 to an average of 215 enquiries a day since 20 January. An additional operator seat was activated to cope with the increased demand, enabling three librarians to operate concurrently.

The range of questions asked appears limitless, with examples including:

- ‘Can you provide some information on government policy making in Singapore?’
- ‘How can I get information on the minefields in Tasmania?’
- ‘Who were the members of the 1938 Italian World Cup squad?’
- ‘How can I get copies of Acts of the Victorian State parliament from 1884 and 1936?’
- ‘I am looking for a book on how to set up sails and rigging on a cherub. Can you help?’
- ‘Please translate Happy Birthday To You into Russian.’

What users say about the service

- ‘This is extremely useful for rural people. We are a rural law firm with limited access to research materials locally outside our law library.’
- ‘I’m a journalist in north-west WA and stumbled across this service by accident – it was fantastic... the reference librarian managed to point me in the right direction straight away.’
- ‘I’m 65 and not very computer literate, therefore your help is more than appreciated.’
- ‘Brilliant for locating hard to get books in Australian libraries.’
Lessons learned

Participating libraries are excited about providing the first nation-wide collaborative chat reference service. Library staff have adapted well, and they are learning more about each other’s collections and services, which will benefit all.

Specific computer code inserted behind the AskNow! icon on each library’s website assists in tracking the website from which the request originates. This helps librarians provide better direction. Some users seem unaware of the collaborative nature of the service and think if they click on the AskNow! icon from the State Library of NSW website, a librarian in NSW will answer their question.

Future directions

An evaluation is to be conducted which will cover assessment of service sustainability; standards and best practice; staffing levels, skills and training; participant and end-user feedback; analysis of use; and potential partnerships. Other national libraries in the Asia-Pacific region, together with some public libraries, have expressed interest in participating in AskNow!, and the National Library of New Zealand and National Libraries Board of Singapore have recently joined the pilot.

Due to the very positive public response it is expected that the service will continue after the pilot phase and be established as a fully-fledged service. Participating libraries are enthusiastic about adding a new dimension to the Australian library scene.

Further information is available at www.asknow.gov.au and from the Project Manager at the National Library of Australia. Phone: 02 6262 1606; Email: asknow@nla.gov.au
If you want to hear the freshest new talent in Australian music, the Listening Room in the Australian Music Online website is the place to be. Australian Music Online promotes new and emerging local acts and features interviews, artist biographies, new releases, reviews, music charts, and a place for music lovers to post their views.

The site is managed and developed by the Australia Council for the Arts, the Commonwealth Government’s arts funding and advisory body. It is the product of partnerships with both public and private organisations and forms part of the Australia Council’s strategy for promoting and marketing Australian Music Online.
Taking Australian music to the world

In 1998, the Federal Government allocated funding to support music industry development and address issues raised by the repeal of Copyright Act 1968 provisions for parallel importation of sound recordings.

As part of this contemporary music funding package, the Australia Council developed a strategy for online promotion and marketing of Australian music. The Australian Music Online web resource is an important part of the strategy.

Australian Music Online markets and promotes new Australian contemporary music nationally and internationally across a diverse range of genres. It is encouraging artists and audiences alike to celebrate the many flavours, influences and experiences in new Australian music.

Australian Music Online syndicates much of its web content to an extensive array of partner websites. It uses the latest web technologies to distribute content from one site to another, enabling other websites to offer a more complete service to their users. The site aims to deliver content partners what they want, when they want it and how they want it.

It is an innovative content sharing initiative showcasing comprehensive, up-to-the-minute information about Australian music, with significant benefits for the local music industry.

Facing the music

Australian Music Online was developed after the Australia Council identified the need to:

• enhance opportunities for the Australian music industry to benefit from new technologies;
• use emerging technologies to align the interests of a traditionally fragmented industry to achieve greater marketing benefits;
• provide world class infrastructure for online promotion of Australian music; and
• promote the integrity and growth of Australian musical content and culture in the information economy.

The biggest challenge for the site was the content sharing requirements. The site had to be sufficiently flexible to carry aggregated information from a large number of different, remote sources.

Australian Music Online integrates content from partner sites using XML (eXtensible Mark-up Language) feeds and database integrations. Partner databases and synchronising data had to be aligned to allow content sharing between sites not designed for integration – which was a challenge.

The site also required a system allowing output of content from Australian Music Online to partner sites in HTML or XML format. It took considerable time to ensure these syndication feeds contained music content in a scalable structure suitable for a broad range of third party requirements and technical capabilities.

There was also a range of design issues to overcome. The site covers 17 genres of music, from ambient to classical, world to rock, hip hop, indigenous and electronic music. Developers needed a site that would appeal to a large cross section of diverse audience groups.

Copyright issues were also paramount. The rights of copyright owners are protected by using a Windows Media streaming server to deliver music. This prevents visitors from downloading music files or making copies of files featured on the website.
Music for everyone’s ears

Australian Music Online satisfies customer, partner, and industry needs by effectively managing and promoting new Australian music on a local and international scale. It also makes available an extensive collection of music material and references.

Through Australian Music Online, Australian musicians can showcase their talent Australia-wide in a variety of mediums. They can include links to partner and syndicate media outlets without fear of copyright or copying breaches, thanks to state of the art programming and technologies.

The Australian community can now access a rich and thorough catalogue of online information about local music by simply visiting the website. The database is a boon for industry and boosts knowledge of the Australian music scene.

Spreading the sounds

Australian Music Online is principally a business–to–business project – namely, a free wholesaler of music content to other websites. Rather than using traditional measures of success such as number of visitors per week, the success of this project is best measured by the number of third parties providing and receiving content.

So far, Australian Music Online has more than 30 content partners, including state-based organisations such as Tasmusic and QMusic, niche genre sites such as Mono.net and the Australian Music Centre, as well as the major record labels, the ABC and Chaos Music.

Tomorrow’s tracks: the future of Australian Music Online

Australian Music Online has funding until the end of 2003 and is negotiating with several key organisations to guarantee partner content well into the future. The National Library of Australia in particular is facilitating usage and archiving of Australian Music Online content in conjunction with its Music Australia project.

Australian Music Online has established some basic infrastructure to support broad dissemination of Australian music content throughout the Internet. So far, the principal lesson learned from the project is a growing awareness of the infinite variety of standards, protocols, languages and methods employed on the Internet. There is an increasing need for universal processes and languages such as XML to be adopted where possible, to assist in the free flow of information.

Australian Music Online is also pursuing content sharing relationships with high profile international organisations such as Music Match, AOL and Real Player to ensure comprehensive information about Australian music is available nationally and internationally. This will produce significant marketing and promotional benefits for the Australian local music industry.

Further information is available at www.amo.org.au and from Australian Music Online, Level 1, 47-51 Hickson Rd, Millers Point, NSW 2000. Phone: 61 2 9249 6500 Fax: 61 2 9249 6555; Email: info@amo.net.au

Biotechnology Australia – www.biotechnology.gov.au

Biotechnology Australia is a unique education initiative providing the Australian community, in particular students and teachers, with information on biotechnology. Biotechnology Online was developed as a school resource to provide simple explanations of the science behind biotechnology and to stimulate discussion about the social implications.

Biotechnology Online is a comprehensive guide to the science of biotechnology. It also explores related issues and provides some information about gene technology regulation and the safety and labelling of genetically modified foods in Australia.
Overview

Biotechnology Australia is a cross-portfolio Commonwealth agency established in 1999 to coordinate the Government’s non-regulatory activities in biotechnology. Its role includes providing balanced and factual information to the Australian community on biotechnology and its applications in medicine, agriculture and the environment.

Biotechnology Australia works closely with CSIRO and government regulatory authorities such as the Office of the Gene Technology Regulator and Food Standards Australia New Zealand to develop and disseminate information for the community.

Objective

Biotechnology Online provides balanced factual information on biotechnology to enable Australians to make informed choices about biotechnology applications.

The resource supports teachers in introducing biotechnology to their classrooms. It is an information rich website, with integrated offline and online material to support classroom activities. Teachers can select components and tailor lesson plans to suit their students.

The resource serves as a good starting point for those requiring a basic understanding of the science behind biotechnology and the chance to examine some applications. Advances in biotechnology have led to the examination of many associated ethical, legal and social questions. A basic understanding of the nature of DNA and of biotechnology is required to become involved in debates about these issues. Biotechnology Online provides this crucial information.

The community wants to know more

There was a need to provide students and teachers with current information about biotechnology so they could understand the subject and debate issues such as genetically modified food, genetic testing, and cloning. Teachers were keen to introduce biotechnology into their classrooms, but they were inadequately resourced and required support to meet students’ information demands.

The wider Australian community also wanted to learn more about biotechnology issues impacting on their lives. The community needed easy access to credible and balanced information on biotechnology, which also offered a simple explanation of the science.

Working together

The Biotechnology Online resource has been produced collaboratively with the States and Territories to ensure it is suitable for all curricula. Curriculum Corporation developed this resource on behalf of Biotechnology Australia, with input from the Australian Science Teachers Association and a National Reference Group.

The National Reference Group was established by Biotechnology Australia, with the assistance of the Australian Science Teachers Association, specifically for this project. It included representatives from key educational bodies, from every State and Territory.
Resources for teachers

Biotechnology Online contains four major sections:

- What is biotechnology?
- Applications for human uses
- Environmental applications
- Applications for food and agriculture

The resource contains factual information, research, case studies and topical issues on biotechnology and is designed to meet the requirements of years 9 and 10 students and their teachers. It does however provide a valuable resource for other senior years as well.

The resource includes teacher notes, student worksheets, interactive activities, short animated lessons, and 100 glossary terms. Other offline classroom activities such as role plays, debates and discussions have been created to allow students to learn about regulations in Australia, differing points of view on current practice and the ethical and moral questions forming part of the current debate. There are various online tools to engage students – including an actual laboratory activity to extract genes, and an exercise involving solving a crime on a DNA profiling interactive storyboard.

The teacher notes cover links to specific content focus, context or activities mentioned in each State and Territory curriculum, and the relevant outcomes at the appropriate levels of year 9 to 10. These notes also suggest pathways for lesson plans and advise on experiments and activities.

Benefits

Biotechnology Online provides balanced and factual information about biotechnology and has been designed to fit with State and Territory science curricula, with crossover into studies of society and the environment.

The creative presentation of material on the website provides students and teachers with a holistic perspective of biotechnology. The website is reader-friendly and highly interactive and captures the imagination of students.

Further developments

Biotechnology Australia has taken this initiative a step further with the assistance of the Australian Science Teachers Association and State Associations and is developing and delivering professional development courses for teachers around Australia.

Based on a train-the-trainer model, the Biotechnology Online professional development package enables teachers to return to their schools after training and use the package to assist other teachers in its use. The package empowers teachers to teach different aspects of biotechnology and to bring discussions of related issues into the classroom.

Further information is at www.biotechnology.gov.au and from Biotechnology Australia, GPO Box 9839, Canberra ACT 2601. Phone: Gene Technology Information Service freecall: 1800 631 276; Email: ba@biotechnology.gov.au
In Australia, all earthquakes are monitored using a national network of stations. In the past, members of the public could access this information by telephone or mail only. Now, it’s as simple as logging on to the Geoscience Australia website.

The site provides a wealth of data about earthquakes in the Australasian region. It also provides an online logbook allowing anyone affected by an earthquake to report the details of their experience. These reports are compiled by Geoscience Australia to document the important human impacts of earthquakes. Previously, the only way to gather such information was by door knocking and posting survey forms to residents in affected areas. As these surveys were only used when urban areas were affected or for major earthquake activity, the information was less than comprehensive.
About Geoscience Australia

Geoscience Australia is Australia’s national geoscience research information agency and is a world leader in providing high-quality geoscience research and information. It provides input for decisions impacting on resource use, management of the environment, and the safety and wellbeing of Australians.

Geoscience Australia monitors and assesses the earth-surface processes that pose a risk to urban centres in Australia. It gathers data and develops tools that governments and other authorities may use to make Australia as safe as possible from natural hazards such as earthquakes.

Newcastle earthquake a wake-up call

Earthquakes are a significant but generally underrated natural hazard in Australia. A major earthquake in Newcastle in 1989 created a substantial but short-term increase in requests for information about earthquakes. At the time, the public could obtain earthquake information from Geoscience Australia by telephone, fax and post only – a system dependent on available staff and timely mail delivery. The Newcastle earthquake also highlighted the need for the compilation of systematic data about the human impacts of earthquakes, for strategic management of geological hazards.

Spreading the word

Geoscience Australia used a combination of three significant technologies – web delivery, databases, and dynamic web mapping – to provide the Australasian community with access to information about earthquakes. The database contains the locations and magnitudes of earthquakes and it is compiled from readings taken from a network of earthquake recording stations around Australia. The web server dynamically queries data extracted from this database in real-time. The Recent Earthquakes page on the site shows details of earthquakes recorded in the previous month, including latitude, longitude, time, depth, magnitude and location.

This combination of technology enables access to a wide range of information about earthquakes and the nature of the region in which they occur.

Using web mapping technology [map server – mapserver.gis.umn.edu] the website can provide an image of the location of the earthquake epicentre. The map is available in five scales and shows important geographical data such as towns, states, etc. The location of previous earthquakes and major geological faults can also be viewed. By clicking on the Recent Earthquakes web page, users can view a seismograph – a chart of the earth’s movement at the time of the earthquake.

The Recent Earthquakes page also links to an online form where people can submit information about their own experience of an earthquake, allowing them to contribute to earthquake awareness through shared information. Questions include:

- ’What did you physically feel?’
- ’Were you woken from sleep?’
- ’What feelings did this event provoke (i.e. scared, or frightened)?’
- ’Your location during the event’ and
- ’Physical effects and damage to buildings and structure.’
Meeting the demand

The online Earthquake information has greatly reduced the number of telephone calls from people inquiring about earthquake details. The collation of public information is contributing to a greater understanding of the effect of earthquakes on communities. Seismologists are using the information when developing government services involved in earthquake damage prevention, and in revising building codes and engineering standards for large infrastructure.

Previously, information about an earthquake could take several days to reach the Geoscience Australia website. Now, information is entered into the database by an earthquake analyst almost immediately and made available to the public within an hour of the earthquake. Local authorities can use this vital information to better deal with the human impacts of an earthquake.

The site has also assisted Geoscience Australia in their national and international reporting. Previously, Geoscience Australia collated monthly reports of all Australian and significant global earthquake data and produced Earthquakes: Australian Seismological Report each year. Now this information is updated every day and released online in a monthly report accessed through the earthquake page. The organisation no longer has to pay for design, publication and distribution of paper based reports, and everyone can access the information immediately and for free, rather than waiting 12 months and paying for a publication.

Geoscience Australia's focus

Geoscience Australia devotes a major portion of its resources to geohazards, including seismic, geomagnetic and environmental hazards such as landslides, volcano eruptions, tsunami, floods and earthquakes. It has a national role in providing advice to planning and emergency management agencies about the risks associated with a wide range of hazards.

Demand for the service

![Web usage: Recent earthquakes](image-url)
The graph shows the level of use of Geoscience Australia’s Recent Earthquakes online service. The blue line shows the number of people who have viewed the list of earthquakes, while the purple line shows the number of maps made from that list. More than 3,000 page views are made each month. The general upward trend shows increased use of the service, while local peaks in the graph can be matched with significant earthquake activity in the Australian region.

Strong foundations critical for a good service

There is a major public benefit in establishing accurate data collection and data management processes. More than 90 per cent of Geoscience Australia’s effort went into developing the database structure, populating the database, and educating earthquake analysts in the use of the system. The benefits of good data management in the long term outweigh the amount of effort required initially to set up the system. The main asset in this application is the dataset, which will remain useable even beyond the life cycle of Geoscience Australia’s current information systems.

Future direction

The future of Geoscience Australia’s online Earthquake information service lies in its integration with other Internet web systems, such as the United States Geological Survey www.usgs.gov earthquake database, which would enable development of a global application of this type. Other Internet technologies for data sharing, such as the Open GIS consortium www.opengis.org and XML, would be used for this purpose. These projects would be in collaboration with scientists from similar organisations overseas.

Further information is available at www.ga.gov.au/urban and from Geoscience Australia, corner of Hindmarsh Drive and Jerrabomberra Avenue, Symonston ACT 2609. Phone (General Enquiries): 02 6249 9111 Earthquake Information Freecall: 1800 655 739; Fax: 02 6249 9990; Email: earthquakes@ga.gov.au
If you have a question about an Australian Prime Minister, the National Archives has all the information you need and more. The Archives’ Prime Ministers of Australia website is a simple and stimulating way to learn about the leaders who have shaped Australia since federation.

Australia has had 25 Prime Ministers since 1901 and the National Archives has records for all of them. As part of this project, thousands of prime ministerial records held by the Archives were identified, digitised and made available online.
Why the Archives established the service

Archival material on each of the 25 Prime Ministers can be found in numerous locations throughout Australia and overseas. The National Archives wanted to provide everyone with access to this information. The website provides a user-friendly online portal for easy browsing, wherever the material is held. The portal opens to online access to documents, photographs and a range of subject guides and other searching aids.

It's a one-stop archival shop

The Australia's Prime Ministers site gives a human face to history by providing information about past Prime Ministers, their terms of office, the times they lived in and the roles of their spouses.

The site includes digitised copies of photographs, correspondence and other archival material, so users can go to the original sources and check the evidence themselves.

It also features links to key Prime Ministerial material held in the National Archives and in the collections of its project partners – the National Library, Australian War Memorial, ScreenSound Australia and the John Curtin Prime Ministerial Library. There are also links to archives and libraries in Australia and overseas with material about Australia’s Prime Ministers.

Challenges and solutions

The very nature of archives often makes them hard for the public to access. Archival institutions maintain control over vast numbers of records, cataloguing according to the organisation or person who created them. But it can be difficult for users to find their way through this system.

To make it easier, National Archives identified many of the relevant records – this was one of the challenges of this project. They had to search their own collection, the collections of their project partners and more than 60 other archival collections, both in Australia and overseas.

Archives are unique by definition – there is only one original document. Traditionally, people had to visit a reading room to see documents, but in the electronic world, archives can be digitised and made available online. Accordingly the National Archives has made the collection accessible to everyone, including people in regional areas.

The National Archives' customer group is diverse and users have different interests, needs and levels of familiarity with the Internet. The website targets a broad audience, including people with casual inquiries; students and teachers, from primary to tertiary levels; journalists and other information providers needing quick, accurate factual information; and academic researchers pursuing specialised projects.

The website targets these varied groups by offering information in a number of sections:

- *Fascinating Facts* – short magazine-format vignettes to stimulate curiosity;
- *Meet a PM* – an historical and biographical summary of each Prime Minister’s life and times and the role of their spouse;
- *Fast Facts* – the vital statistics: birthdates, marriage dates, children, terms of office, Cabinet posts held, as well as little known facts;
- *Who’s Who, Timeline and Glossary* – context on people, events and terminology; and
- *Research Map* – links to archival collections in Australia and overseas with relevant material on the 25 Prime Ministers.
There were a few surprises

Identifying records relevant to Prime Ministers in the National Archives’ collection revealed even more material than the Archives had anticipated. The volume, depth and breadth of the collection is rich and varied. The Archives has created unprecedented online access to government records by digitising thousands of these records.

The roles of Prime Ministerial spouses also emerged in the primary source material, particularly in relationship to official residences such as The Lodge and the task of entertaining national and international leaders.

Demand for the service

One of the strategic aims of the National Archives is to increase knowledge of its collection. A second aim is to foster appreciation of the role of archives in society. The Australia’s Prime Ministers website aligns with both these objectives.

The website was launched in November 2002. During December 2002 and January 2003 there were about 3,000 visits per month. This increased in February 2003 to around 10,000 visits with nearly 2,500 repeat visits. Search engines enable users to easily locate the website and browse its contents.

Lessons learned

It was the National Archives’ first experience in building a dynamic website and the site required considerable planning and development. A simple, easy-to-follow design was chosen, and feedback confirmed navigation is intuitive and user-friendly.

The site is dynamic and database driven. This was a good choice of architecture and has made the site easy to run, especially as new Prime Ministers take office.

When the project began, the Archives did not realise the extent of archival material on Prime Ministers in their collection. Consequently, research and content development was often only slightly ahead of the website production. However, in an ideal world, content would be complete before production begins.

Where to from here?

The website will be updated as each new Prime Minister takes office and as archival records reach 30 years of age. The records for 1973, Gough Whitlam’s second year in office, will become available in 2004. The National Archives is also producing a series of research guides to archival resources on Australia’s Prime Ministers.

Further information is available at primeministers.naa.gov.au and from the National Archives of Australia, PO Box 7425, Canberra Business Centre, ACT 2610, Australia. Phone: +61 2 6212 3930; Fax: +61 2 6212 3914; Email: primeministers@naa.gov.au
Many lives are lost around the world each year from meteorological and related disasters such as bushfires, floods, severe thunderstorms, lightning and tropical cyclones. There are few industries that are not directly affected in one way or another by adverse weather.

The Bureau of Meteorology generates about 500 gigabytes of new data each week from conventional observing systems, satellites, radar and numerical weather prediction models. The Bureau has more than 100 terabytes of online data. Data volume is growing at a rate of about 50 per cent annually and is projected to approach a petabyte by the end of the decade.

The Internet has allowed the Bureau to provide much of this data in a user friendly manner to its key user groups including emergency services; defence forces; energy, transport, agriculture, telecommunications, mining and environment sectors; and the Australian public.

The most frequently requested data are from the Bureau’s network of 52 Weather Watch radars spread across Australia. The data is updated every ten minutes and provides users with a unique view of current weather. The popularity of the Radar e-service makes the Bureau’s website www.bom.gov.au one of the most popular websites in Australia.
Watching the weather

The Bureau of Meteorology participates actively in international bodies, in particular the United Nations World Meteorological Organization. The purpose of this organisation is to facilitate international cooperation in the establishment of networks of stations for making meteorological, hydrological and other observations; and to promote the rapid exchange of meteorological information, the standardization of meteorological observations and the uniform publication of observations and statistics. Australia’s geographical position in a largely oceanic hemisphere dictates a significant dependence on information from meteorological satellites and oceanic observing systems operated by other nations. The benefits derived are substantial but also impose a responsibility for Australia to contribute to the international system.

The Bureau has some 60 staffed stations in Australia, offshore islands and Antarctica. Fifty of these stations provide upper air information through launching high altitude balloons between two and four times daily. The Bureau has some 450 automatic weather stations reporting from half-hourly to hourly, and another 450 cooperative observers who report weather observations every three hours to daily. There are more than 7,000 rainfall stations and more than 130 drifting marine buoys. The flood warning network includes some 700 river height sites and observations are provided by around 90 voluntary observing ships in Australian and adjacent waters. About 40 aircraft have meteorological sensing equipment, with the observations automatically transmitted to the Bureau. In addition, the Bureau receives satellite data from geostationary and polar orbiting satellites. For example, almost two million wind speed and direction observations over the ocean are received daily from forward looking radar sensors on polar orbiting satellites.

Radar e-service

RADAR (RAdio Detection And Ranging) is a system whereby pulses of radio waves are transmitted by an antenna in a highly focused beam, reflected off targets and returned to a receiver located with the antenna.

These targets are mostly areas of rain but could be hail, snow or drizzle. The radar attempts to locate all areas of rain within range of the antenna by sweeping the radar beam around. The radar’s computer determines the direction of the rain from the orientation of the antenna and the distance to the rain from the time taken for the radar signal to return to the receiver. It also calculates the reflecting power of the rainfall (which depends on the size and concentration of the raindrops), so as to provide an estimate of rainfall intensity. The display produced by the radar system is a horizontal map of where rain is falling and an estimate of how heavily it is falling. The radar does not see clouds but the rainfall that those clouds produce. These areas of rain are often called radar echoes because the radar beam reflects off them.

Overview

The radar images indicate the rainfall locations and approximate rainfall intensities at around 3,000 metres above the level of the radar, composed of a number of circular sweeps of the radar at different angles in the vertical. There are six levels of intensity, as shown in the colour-coded key below each radar image.
For every radar device, the image is updated approximately every 10 minutes. Radar image backgrounds show concentric rings indicating distance from the radar. There are three main image scales available: 128 kilometres radius, 256 kilometres radius and 512 kilometres radius.

There are two separate radar services – a free service and a subscription-based service. With the free radar service, visitors get access to the 128 kilometres and 256 kilometres radius images and to a radar image loop consisting of four images at each of these image scales. For the subscription-based radar service, subscribers get access to all of the available radar image scales and to radar image loops consisting of seven images. The free radar service is located at www.bom.gov.au/weather/radar.

Further information on interpretation of radar imagery is available from the education section of the Bureau’s web page.

**The challenge**

During the late 1980s, the Bureau developed a low cost radar display system that could operate on a PC, allowing forecasters to poll individual remote radars and obtain rainfall data. This sophisticated system incorporated additional functions such as looping, zooming and other more technical features. The original system required users to connect directly to a computer controlling the radar antennae, and for many years, the Bureau was limited in its ability to allow access to individual radars, as competing demands could compromise operational forecasting and warning needs. The utility of radar data as a means of continuous weather monitoring was soon recognised and radar access was provided to airport control towers and television stations.

The challenge was to make radar data available to Bureau users and to the general Australian public. The popularity of the radar products is weather dependent and peaky in nature, with demand ranging from reasonable background use to an avalanche of calls during severe weather.

**The solution**

In 2000, the Bureau provided a special web radar service for the Olympic Games in Sydney. Radar images for the areas covered by the Olympics were provided to the public as a ‘public good’ service. Feedback was positive and at the end of the Olympic trial, it was decided to make web radar part of the Bureau’s regular web service.

**The benefits**

Each year the Bureau of Meteorology issues about 12,000 severe weather warnings, 500,000 public weather forecasts, 500,000 aviation forecasts and warnings and answers more than 6,000,000 weather enquiries. Many products are accessed through the Internet as this becomes the delivery mechanism of choice for an increasing number of clients. The Bureau aimed to improve services through provision of a unified access and delivery system for meteorological, hydrological, marine and oceanographic data and products. It covers historical, real-time and forecast time-periods. The improved delivery system allows direct access to clients, greater access to a wider audience in Australia and overseas, greater automation of systems and reduced costs for providing services and increased quality and improved productivity through better use of graphical products.

Internet delivery has been a natural progression for the Bureau and it has been made considerably easier because of current charging arrangements, under which the majority of services are provided as public goods. The Internet has enabled the Bureau to reach a wider audience while minimising infrastructure and communications costs.
Demand for Radar e-service

Demand for the free web Radar e-service is growing at an exponential rate. The Radar e-service averages around six million hits per day and this can peak at eleven million hits during times of severe weather.

Monthly usage follows a seasonal pattern, with heavy use during the severe weather season around summer and lower access levels during winter months.

Lessons learned

The high level of access recorded by the Bureau’s website can be attributed to a number of factors, including:

- useful content and continuous updates;
- simple web layout, loading quickly over fast or slow links;
- the reliability of the site;
- wide range of products and services and educational material available;
- lack of banner ads and other superfluous advertisements; and
- the ‘public good’ nature of much of the site content.

Future directions

The popularity of the Bureau’s website means care needs to be taken in its development. Future plans revolve around improvements to the content of the site and the underlying infrastructure. Improved content includes a new front page and enhanced navigation as well as improving the presentation of graphical products. In the case of the Radar e-service, improvements are planned to the radar map backgrounds to help users visualise topography.

The Bureau is also implementing redundant infrastructure and load balancing systems with a view to improving reliability and scalability. This will assist in times of severe weather to handle the large loads and minimise any slow responses from the website.

Further information is available at www.bom.gov.au/weather/radar and from the Bureau of Meteorology, 150 Lonsdale St, Melbourne Vic 3000. Phone: 03 9669 4000; Email: info@bom.gov.au
The landing at Gallipoli has long been considered one of the defining moments in the history of Australia. The Anzac story has fascinated succeeding generations, possibly none more than young Australians today. Regrettably, too few have the opportunity to travel to the birthplace of the Anzac legend. The Visit Gallipoli website uses the latest technology to provide all Australians with the unique opportunity to experience and understand the Anzac story.

– Dr Neil Johnston, Secretary, Department of Veterans’ Affairs
Shedding new light on an old story

In recent years, there has been a huge surge of interest in Anzac Day and Gallipoli, particularly among young Australians. The Visit Gallipoli website is a place anyone can visit to gain a better understanding of the Anzac story. It was commissioned by the Commemorations Branch of the Department of Veterans’ Affairs and developed by the New South Wales Board of Studies.

The site allows teachers, students and the public to explore the places where the Anzac legend began, providing electronic access to the world’s most authoritative and original collection of materials about Gallipoli and Anzacs. Visitors learn about the conflict, the times and the conditions people endured.

The website is a visually rich information source for students of history and geography, design, environment, visual arts and engineering. Teachers can also view suggested lesson ideas.

What’s special about the site?

The site is highly graphic, with sophisticated use of animation for some display elements. Smart page design allows the site to display correctly on different web browsers and different operating systems.

This complex page design required alternative pages to be more accessible, especially for visually impaired users. The solution was to produce a text-only version of the entire site at www.gallipoli.gov.au. This version of the site is much more suitable for users of screen readers.

Visit Gallipoli uses the most up-to-date multimedia technology including video, audio and animation for a virtual tour of the Anzac commemorative site. It includes:

- information on the climate, geography and geology of the Gallipoli Peninsula;
- reports and telegrams from correspondent Ellis Ashmead-Bartlett in military code and clear text, showing the military censors’ deletions and changes;
- the design brief and animated architectural plans for the Anzac Commemorative Site;
- original uncropped artworks and historical photographs;
- animated timelines on 100 events at Gallipoli and for Australians at war from 1901–2000;
- an exhibition gallery of the work of nurses tending the injured from Gallipoli at the third Australian General Hospital on the nearby island of Lemnos; and
- letters from Australian nurses describing the events of 1915.

Meeting agency and community needs

The Department of Veterans’ Affairs assists members of Australia’s veteran and defence force communities, war widows and widowers, widows and dependants.

The Visit Gallipoli website is an exciting and innovative part of the departmental commemorations program, Saluting Their Service.

The site has been well received

The Visit Gallipoli website receives 225 unique visitors each day, with around 600 total sessions each day, indicating a lot of repeat usage. In the ten days prior to Anzac Day, that figure increases to more than 2,000 visitors a day.
The website has drawn critical acclaim in publications such as *The Sydney Morning Herald* and it has been featured in *Net Guide* magazine on Anzac Day as one of the best websites for April 2001.

The website won the 2001 best educational website award in the Australian Publishers Association Publishing Awards. The additional publicity made a wide range of users aware of the site, which considerably increased the number of visitors.

Top international search engines list the website for users on the topic of Gallipoli. Type Gallipoli into any of the three most popular search engines in the world and you'll find www.anzacsite.gov.au on their top ten. This makes the site one of the most prominent websites in the world on Gallipoli.

The popularity of the site is also demonstrated by the number of other sites which provide links to Visit Gallipoli. These include educational, military history, enthusiast and general websites.

**And the future?**

The website was designed to be released to the public in stages. Extra sections and information are being added as research is completed and new material is uncovered.

As time goes by, this will include further lists of Australians buried in the war graves at Gallipoli and maps and photographs of each cemetery. Archival materials from the State Library of NSW (Mitchell Library) collection of unpublished images about Gallipoli will also be added.

Further information is available at [www.anzacsite.gov.au](http://www.anzacsite.gov.au) and from the Commemorations Branch, Department of Veterans’ Affairs, 15th Floor, Lovett Tower, 13 Keltie Street Woden ACT 2606. Phone: 1800 026 185; Fax: 02 6289 4849; Email: info@anzacsite.gov.au.
The website – myfuture – is an initiative of the Department of Education, Science and Training (DEST). It aims to empower people to make well informed career choices throughout life.

It is a practical example of what can be achieved when States and Territories work together. It demonstrates DEST’s role in providing national leadership in education and training.

The myfuture site has captured information on the labour market, education, training and jobs in Australia and packaged it in an easy to use online career service: a remarkable and exciting achievement.

– Lisa Paul, Deputy Secretary, Department of Education, Science and Training.
Overview

The myfuture website is an interactive, online career exploration service. It is suitable for all Australians, with a particular emphasis on 16 to 24 year old students. People can explore their skills and interests, identify career possibilities, develop a career plan and research options for study or training. The site provides information on industries, small business, courses and training providers, financial support and much more.

Objective

Over the last decade there have been a number of calls for improved career information and services provision, especially for schools. While there were a number of career information resources available on the Internet and elsewhere, they were varied in quality and not comprehensive.

The concept of an online career information system was broadly accepted by the Commonwealth, States and Territories as an important step in improving access to career information.

Challenges

There were four challenges facing the project:

- the Commonwealth needed support from the State and Territory Education and Training Ministers to make myfuture a truly national system;
- the scope of myfuture's functional requirements had to be defined. Next, licences to use existing data had to be negotiated with data suppliers and data collections created where none existed;
- a sophisticated diagnostic tool had to be developed; and
- a content management system had to be created to manage the import of data and content into the website.

The myfuture service

The myfuture site is large and innovative. It provides high-quality career, occupational and labour market information and self-assessment and job preparation tools.

The system enables better-informed decisions about career aspirations, including choices about jobs and further education or training required. The service is aimed at students and careers advisers, but also assists unemployed people and those wishing to change careers.

The site has the potential to improve access to career information by students, career educators and schools, especially schools in rural and remote Australia and schools without easy access to Centrelink Career Information Centres. The site has the potential to contribute to improved education participation rates; reduce education and training costs through reduced drop out and wastage; and improve the responsiveness of the labour market to employer requirements.

The system takes into account the range of information already available on the Internet. It has been designed for easy access and navigability. It is driven by user needs and it is suitable for users with a range of technical proficiencies and differing information needs.
Developing the site

The establishment of myfuture was approved by the Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA), comprising Commonwealth, State and Territory and New Zealand Ministers. The Commonwealth funded system development and the Commonwealth, States and Territories share the recurrent (maintenance) costs.

Broader support for myfuture was facilitated by key supporters in various jurisdictions who actively promoted the concept to stakeholders.

MCEETYA also agreed that education.au limited, an Adelaide-based company, would design, develop and implement the system. They commissioned career experts to prepare a paper on career theory that provided the theoretical underpinning for the system. The diagnostic tool and content management tool were contracted to a Tasmanian company.

The diagnostic and content management tools were developed using Microsoft Windows Distributed Internet Architecture. This architecture is the precursor to Microsoft.NET and ensures the site is scalable, highly available, secure, easily managed and meets open standards to enable collaboration with other applications.

Benefits

myfuture fulfills DEST's role in assisting young people to make well-informed choices about their careers. It ensures communities throughout Australia can access career information and services.

The website is also a valuable resource for:
- parents, guardians and grandparents;
- career advisers in schools, universities and TAFEs;
- subject teachers;
- youth workers, coaches, cultural and religious leaders;
- youth at risk trainers; and
- employment, job placement and human resource advisers.

Demand for myfuture

Between mid-2002 and early 2003, there have been more than 2.4 million page requests. More than 28,000 people have registered with the My Guide career exploration section of the website. Of these, nearly 46 per cent are older secondary students, around 27 per cent are adults, around 17 per cent are younger secondary students, five and a half per cent are further education and training students, and around four per cent left school in the last two to three years.

Lessons learned

The myfuture site is a national service, so it was critical to involve key stakeholders through a steering committee, reference groups, national roadshows and update bulletins. This involvement ensured the product was supported by all. Engaging a company owned jointly by Commonwealth, State and Territory education and training Ministers (education.au limited) also fostered the collaboration necessary for success.
Future directions

Subject to funding, future enhancements could cover the application of new technologies, data collection, online mentoring, content, call centre support and look and feel. A full site evaluation is also planned.

A major challenge facing the project is ongoing commitment from all stakeholders to keep the website abreast of changes in technology, such as the rapid move towards convergence of digital technologies with multiple outputs such as handheld devices or digital television. Streaming audio and video are other potential inclusions on the website.

Further information is available at [www.myfuture.edu.au](http://www.myfuture.edu.au) and from the Career Education Section of the Department of Education, Science and Training: Mezzanine Level, 14 Mort Street, Canberra City 2600. Phone: 02 6240 8152; Fax: 02 6123 5015; Email: graeme.ainsworth@dest.gov.au